

What is claimed:

1. A system for the adjustable placement of foodstuff, the system comprising:
a lateral conveyance apparatus having a first transport surface and a lateral
shift mechanism linked to the transport surface and an adjacent second
transport surface.
2. The system of claim 1 wherein the second transport surfaces is included on an
axial spacing apparatus adjacent and downstream to the lateral conveyance
apparatus.
3. The system of claim 1 further including a means for sensing the location of the
foodstuff on one of the transport surfaces and communicating a signal to the
lateral shift mechanism.
4. The system of claim 3 wherein the sensing means communicates to the lateral
shift mechanism through a controller.
5. The system of claim 1 further comprising a stroke adjuster for setting the lateral
travel of the lateral shift mechanism.
6. The system of claim 3 wherein the sensing means comprises a contact sensor.

7. The system of claim 1 wherein one of the transport surfaces comprises a conveyor belt.

8. The system of claim 7 further comprising a timing means for controlling the speed of the conveyor belt.

9. The system of claim 3 wherein the lateral shift mechanism comprises a pneumatic or hydraulic cylinder assembly.

10. A system for adjustable placement of foodstuff, comprising:

a set of transport surfaces, and in the set:

a pair of transport surfaces in the set adapted so that foodstuff is received on a downstream member of the pair in an axially more compact arrangement than transferred from an adjacent upstream transport surface, and

a pair of transport surfaces adapted so that foodstuff is received on a downstream member of the pair in a laterally shifted arrangement relative to the arrangement carried on an adjacent upstream transport surface arrangement, the system being capable of delivering rows of foodstuff to a downstream food processing apparatus in a nested arrangement.

11. The system of claim 10 wherein one transport surface in the set conveys
foodstuff to a transport surface of a food processing apparatus.

12. The system of claim 11 wherein one transport surface in the set is the output for
5 an initial, upstream food presenting apparatus.

13. A system for adjustable placement of foodstuff, comprising:

a transport surface comprising a continuous loop conveyor for transporting the
foodstuff;

10 a contact sensor that senses an item of foodstuff on the transport surface and
generates a signal; and

a lateral shift mechanism in communication with the sensor so that the signal
causes the adjusting mechanism to laterally adjust the transport surface.

15 14. A system for the adjustable placement of foodstuff, the system comprising:

an upstream apparatus for presenting a first set of foodstuff;

a transport surface that receives foodstuff from the upstream apparatus;

a lateral shift mechanism mechanically linked to the transport surface for

selectively laterally adjusting the transport surface within a predetermined

20 range so that a second set of foodstuff being presented by the first

apparatus is offset therefrom; and

a downstream apparatus for processing foodstuff that receives on a transport surface the sets of foodstuff from the lateral adjusting conveyor.

5 15. The system of claim 14 further including a means associated with the laterally adjustable conveyor for sensing the location of the foodstuff on the transport surface.

10 16. The system of claim 14 wherein the upstream apparatus comprises an axial spacing apparatus.

 17. The system of claim 14 wherein the downstream apparatus comprises an oven with a transport surface running therethrough.

15 18. The system of claim 14 wherein the downstream apparatus comprises an axial spacing apparatus.

 19. The system of claim 14 further comprising an axial spacing apparatus disposed between the lateral shift mechanism and the downstream apparatus, the transport surface linked to the lateral shift mechanism capable of transferring foodstuff at a higher speed than the transport surface of the downstream apparatus.

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20. The system of claim 14 further comprising an axial spacing apparatus disposed between the upstream apparatus and the transport surface linked to the lateral shift mechanism.

5 21. A system for the adjustable placement of foodstuff, the system comprising:
a food presenting machine for presenting a first set of foodstuff;
a transport surface that receives foodstuff from the food presenting machine;
a lateral shift mechanism that selectively laterally displaces the transport
surface within a predetermined range so that a second set of foodstuff
10 being presented by the food presenting machine is offset therefrom;
a speed control mechanism that selectively controls the rate of movement of
items of foodstuff moving on or along the transport surface;
a food cooking apparatus that receives the sets of foodstuff from the transport
surface.

15 22. A system for compact arranging of foodstuff on a transport surface comprising:
an upstream apparatus that presents a first row and a second row of foodstuff;
a lateral conveyance apparatus downstream of the upstream apparatus having
a transport surface and a lateral shift mechanism linked to the transport
20 surface; the lateral conveyance apparatus disposed to sequentially receive
the first and second rows of foodstuff and being able to selectively shift
one row laterally relative to the other;

an apparatus downstream of the lateral conveyance apparatus that receives the first row and a laterally shifted second row of foodstuff.

23. A system for compact arranging of foodstuff on a conveyor comprising:

5 an integrated apparatus that presents a first row and a second row of foodstuff,
the integrated apparatus comprising
a lateral shift mechanism for lateral shifting of a first row of foodstuff
relative to a second row input onto or output from the integrated
apparatus, the integrated apparatus also comprising a food processing
10 apparatus.

24. A method for arranging foodstuff in conveyance system comprising the steps of:

providing a set of transport surfaces;
outputting a first set of foodstuff to a first transport surface;
15 outputting a second set of foodstuff to the first transport surface;
outputting the first and second sets of foodstuff to a second transport surface
so that the first set is laterally shifted relative to the second set; and
advancing the laterally shifted sets of foodstuff to a subsequent food
processing operation.

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25. The method of claim 24 wherein the sets of foodstuff are in nested rows.

26. A method for manufacturing a lateral conveyance apparatus comprising the steps of:

providing a transport surface;

providing a lateral shift mechanism; and

5 assembling the transport surface to the lateral shift mechanism so that the lateral shift mechanism laterally shifts the transport surface within a predetermined range.

27. The method of claim 26 further comprising the steps of:

10 providing a sensing means for sensing items of foodstuff on the transport surface; and

assembling the sensing means to the apparatus so that the items may be sensed, the sensing means including means for generating a signal to activate the lateral shift mechanism.

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28. The method of claim 26 further comprising the steps of:

providing a stroke adjuster; and

assembling the stroke adjuster to the apparatus so that the lateral shift mechanism may be set within the range.

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29. The method of claim 26 further comprising the steps of:

providing a speed controlling mechanism; and

assembling the speed controlling mechanism adjacent to the apparatus so that the speed of the transport surface may be adjusted.

30. The method of claim 26 further comprising the step of:

5 aligning the transport surface of the lateral conveyance apparatus adjacent a second transport surface so that items of foodstuff may be transferred from one transport surface to the other.

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